CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Downtown Underground Conversion

Department: Utilities
165
Division: Power & Light
406
Section: Distribution (Water, Gas, and Electric) 2
Fund:54

Description:

This project will continue the effort to install underground circuits in the downtown and River District area to allow removal of overhead lines installed many years ago and fail to meet present day code.

Justification:

This project is part of the Downtown and River District improvement projects. It will allow removal of moat of the overhead construction in these areas.

Comments:

N/A

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Downtown Underground Conversion

Department: Utilities
165
Division: Power & Light
406
Section: Distribution (Water, Gas, and Electric) 2
Fund:54

Project Cost/Funding Sources:

	Prior Years	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total
Reprogrammed Funds	-	$1,700,000	-	-	-	-	$1,700,000
Project Totals:	**-**	**$1,700,000**	**-**	**-**	**-**	**-**	**$1,700,000**

Goals/Milestones:

FY 2015	With the addition of underground construction requested by the River District Committee in the Lynn Street, Craghead Street, and Newton's Landing areas additional funding is necessary to complete.

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Line Rebuilds and Reconductoring

Department: Utilities
165
Division: Power & Light
406
Section: Distribution (Water, Gas, and Electric) 2
Fund:54

Description:

Reconductor or three-phasing of various line sections. This project consists of eleven independent subprojects. Each of the subprojects is necessary to either remedy loading or service problems, allow areas to be alternately fed, or to support future growth.

Justification:

The project will allow areas to be alternately fed or to support future growth.
Study: 2001 Duke Engineering Study and internal 2007 internal Planning Study.

Comments:

N/A

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Line Rebuilds and Reconductoring

Department: Utilities
165
Division: Power & Light
406
Section: Distribution (Water, Gas, and Electric) 2
Fund:54

Project Cost/Funding Sources:

	Prior Years	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total
Utility Fund Revenues	-	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$5,000,000
Project Totals:	**-**	**$1,000,000**	**$1,000,000**	**$1,000,000**	**$1,000,000**	**$1,000,000**	**$5,000,000**

Goals/Milestones:

FY 2015	Construct system improvements as necessary to maintain level of service and reliability standards
FY 2016	Construct system improvements as necessary to maintain level of service and reliability standards
FY 2017	Construct system improvements as necessary to maintain level of service and reliability standards
FY 2018	Construct system improvements as necessary to maintain level of service and reliability standards
FY 2019	Construct system improvements as necessary to maintain level of service and reliability standards

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Distribution Automation System

Department: Utilities
165
Division: Power & Light
406
Section: Load Management (Electric) 5 Fund:54

Description:

This project expands real-time monitoring and control of the entire electric system down to the customer level. The upgraded SCADA system dynamically displays the entire transmission and distribution system in real time and incorporates automatic distribution field device switching based on real time operating parameters without human intervention, reducing power outages to minutes compared to hours for the portions of the distribution system that are not directly affected by the outage. The Outage Management System (OMS) continuously monitors the distribution system and reports any anomalies to the System Operator. The OMS also has the ability to provide suggested switching solutions for line sections that do not have automated field switches. This feature enables faster response and switching orders based on actual pre-outage conditions rather than "standing switching orders" to transfer load. The interface to the Interactive Voice Response system provides real-time customer service status; automates customer call back; automates crew call out; and provides advanced trouble-order management with historical data archiving of each customer's service status.

Justification:

Presently all outages and service interruptions are determined by the customer's telephone call into the Operation Center. The customer's service location is determined by referencing the legacy customer service information and paper service area maps. After the location is determined the line crew or service crew is dispatched to the outage location.

Comments:

N/A

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Distribution Automation System

Department: Utilities
165
Division: Power & Light
406
Section: Load Management (Electric) 5 Fund:54

Project Cost/Funding Sources:

	Prior Years	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total
Utility Fund Revenues	-	-	$1,000,000	$1,000,000	-	-	$2,000,000
Project Totals:	**-**	**-**	**$1,000,000**	**$1,000,000**	**-**	**-**	**$2,000,000**

Goals/Milestones:

FY 2016	Funding for this project has been deferred to the 2016 budget year to allow for the installation of the software and issues addressed before full implementation is attempted.
FY 2017	Provide upgrades to distribution field devices

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Utilities Warehouse

Department: Utilities
165
Division: Power & Light
406
Section: Miscellaneous 6 Fund:54

Description:

To construct a 40,000 square foot Utilities Warehouse for storage and distribution of inventory and shelter for equipment and vehicles at Utilities Complex.

Justification:

Utilities currently leases a 20,000 square foot facility constructed in 1948 located adjacent to the Utilites Complex. Access to the facility is gained from Goodyear Blvd. The new facility would be located on the property where the Brantly Steam plant currently stands. The facility would be designed to more efficiently organize and distribute our inventory also allowing Utilities to move more of the material to inside or covered storage thereby extending the life of materials that are infrequently required yet difficult to obtain.

Comments:

Rough estimate of cost.

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Utilities Warehouse

Department: Utilities
165
Division: Power & Light
406
Section: Miscellaneous 6 Fund:54

Project Cost/Funding Sources:

	Prior Years	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total
Bonds	-	-	$2,400,000	-	-	-	$2,400,000
Project Totals:	**-**	**-**	**$2,400,000**	**-**	**-**	**-**	**$2,400,000**

Goals/Milestones:

FY 2016	Construction

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Weatherization - Energy Efficiency

Department: Utilities
165
Division: Power & Light
406
Section: Miscellaneous 6 Fund:54

Description:

Danville Utilities adopted an energy efficiency charge as part of the Power Cost Adjustment (PCA) billing mechanism that provides the electric utility with a revenue stream equal to $0.0005 per kilowatt-hour (kWh) of sales, or approximately $40,000 per month in total (the energy efficiency charge was originally $0.0010 per kWh but was decreased in August 2012). This energy efficiency charge was implemented with the purpose of creating a funding source for Danville Utilities' Energy Efficiency & Conservation Plan. Within the plan, there are currently multiple City Council-approved energy efficiency education and incentive programs that have been designed to benefit all Danville Utilities customers, including comprehensive energy efficiency rebate programs for both residential and commercial electric customers which are now both in their second year of operation.

Justification:

The energy efficiency charge, first established in September 2010, provides Danville Utilities Power & Light division with the necessary revenue to continue funding our energy efficiency incentive, education, and customer outreach programs in FY 14.

Comments:

N/A

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Weatherization - Energy Efficiency

Department: Utilities
165
Division: Power & Light
406
Section: Miscellaneous 6 Fund:54

Project Cost/Funding Sources:

	Prior Years	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total
Utility Fund Revenues	$492,015	-	$600,000	-	-	-	$1,092,015
Project Totals:	**$492,015**	**-**	**$600,000**	**-**	**-**	**-**	**$1,092,015**

Goals/Milestones:

FY 2015	Continue Energy Efficiency program rebate processing, marketing, and program management in fiscal 2015. Program to be funded from existing fund balance rather than new revenue.
FY 2016	Continue Energy Efficiency program rebate processing, marketing, and program management in fiscal 2016. Program to be funded through new revenue.

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Gypsum Road Substation

Department: Utilities
165
Division: Power & Light
406
Section: Sub-Stations (Electric) 9 Fund:54

Description:

This project includes a 138 kV Tap from AEP's Rigis Station to a Substation site adjacent to the AEP site. The project will include 138 kV to 12 kV transformer and a developed substation site.

Justification:

This project will provide the Electric capacity to serve the proposed development in the GOK Industrial Park normally referred to as the Coleman Property.

Comments:

N/A

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Gypsum Road Substation

Department: Utilities
165
Division: Power & Light
406
Section: Sub-Stations (Electric) 9 Fund:54

Project Cost/Funding Sources:

	Prior Years	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total
Bonds	-	-	$3,500,000	-	-	-	$3,500,000
Project Totals:	**-**	**-**	**$3,500,000**	**-**	**-**	**-**	**$3,500,000**

Goals/Milestones:

FY 2017	Development of the Coleman Property will require the construction of a new substation adjacent to the AEP Regis Substation on Gypsum Road.

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Bridge Street Perimeter Enhancements

Department: Utilities
165
Division: Power & Light
406
Section: Sub-Stations (Electric) 9 Fund:54

Description:

This project entails enhancing the appearance of the Bridge Street Substation in accordance with the River District Project.

Justification:

This project will include painting, perimeter security improvements, and illumination (Up lighting). This project will enhance the appearance of the substation as well as protect the substation from unauthorized entry.

Comments:

N/A

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Bridge Street Perimeter Enhancements

Department: Utilities
165
Division: Power & Light
406
Section: Sub-Stations (Electric) 9 Fund:54

Project Cost/Funding Sources:

	Prior Years	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total
Reprogrammed Funds	-	$250,000	-	-	-	-	$250,000
Project Totals:	**-**	**$250,000**	**-**	**-**	**-**	**-**	**$250,000**

Goals/Milestones:

FY 2015	The River District Committee requested exterior enhancements to the Bridge Street Substation

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: 25kV Voltage Conversion

Department: Utilities
165
Division: Power & Light
406
Section: Sub-Stations (Electric) 9 Fund:54

Description:

Reinsulate various line sections for operation at 25 kV. This project consists of seven subprojects. The project covers a large portion of DPL's remote low load density service territory to the east, west, and north. The lines in these areas have small conductors (#2 and #4 ACSR typically) with long tap-lines (4 to 9 miles) and high customer counts (70 - 140). Each of these areas has two sets of voltage regulators in place to maintain voltage within acceptable range. The traditional methods of reconductoring and multi-phasing lines to address growth and quality of service issues are not cost effective solutions at $170,000 per mile. Reinsulating these areas to operate at 24.9/14.4 kV at $10,000 to $12,000 per mile is cost effective.

Justification:

Operation at 25 kV will improve the voltage profile, decrease load by one half, and reduce losses by one quarter. Other operational benefits will be reduced operation and maintenance expenses due to newer and less equipment, and fewer outages due to better coordination and protection practices. This project was recommended in the 2001 COD/Duke Engineering Strategic Plan Study.

Comments:

N/A

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: 25kV Voltage Conversion

Department: Utilities
165
Division: Power & Light
406
Section: Sub-Stations (Electric) 9 Fund:54

Project Cost/Funding Sources:

	Prior Years	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total
Utility Fund Revenues	-	-	$580,000	$610,000	$360,000	$360,000	$1,910,000
Project Totals:	**-**	**-**	**$580,000**	**$610,000**	**$360,000**	**$360,000**	**$1,910,000**

Goals/Milestones:

FY 2016	This is a continuing project that will deal with end of line voltage problems in the future by converting the outlying areas to 25 kV/14.4 kV voltage to double the capacity of the conductors in these areas
FY 2017	This is a continuing project that will deal with end of line voltage problems in the future by converting the outlying areas to 25 kV/14.4 kV voltage to double the capacity of the conductors in these areas
FY 2018	This is a continuing project that will deal with end of line voltage problems in the future by converting the outlying areas to 25 kV/14.4 kV voltage to double the capacity of the conductors in these areas
FY 2019	This is a continuing project that will deal with end of line voltage problems in the future by converting the outlying areas to 25 kV/14.4 kV voltage to double the capacity of the conductors in these areas

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Mobile Substation

Department: Utilities
165
Division: Power & Light
406
Section: Sub-Stations (Electric) 9 Fund:54

Description:

Mobile Substation Procurement

Justification:

The Mobile is used as a backup supply for substation emergency backup and maintenance operations. The present Mobile is rated at 7400 kW. This rating is sufficient for use in the Substations in the spring and fall, but is not sufficient for use in the peak summer and winter seasons. Purchase of a larger Mobile will allow us to ensure maintenance can be completed and that we can supply power to our customers under all conditions

Comments:

N/A

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Mobile Substation

Department: Utilities
165
Division: Power & Light
406
Section: Sub-Stations (Electric) 9 Fund:54

Project Cost/Funding Sources:

	Prior Years	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total
Reprogrammed Funds	-	$1,750,000	-	-	-	-	$1,750,000
Project Totals:	**-**	**$1,750,000**	**-**	**-**	**-**	**-**	**$1,750,000**

Goals/Milestones:

FY 2015	Purchase of 15 MVA mobile transformer to allow for emergency provisions

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Substation Upgrades & Rebuilds

Department: Utilities
165
Division: Power & Light
406
Section: Sub-Stations (Electric) 9 Fund:54

Description:

Evaluation and replacement or rehabilitation of all Substation transformers; Rebuild substations to open air configuration due to age and equipment failure. Substations will be evaluated and rehabilitated systematically.

Justification:

Most of the substation transformers were installed in the 1970's. Many are approaching or have exceeded their life expectancy (~30 years). This project will initially evaluate the transformers and identify and prioritize problems. Additional subprojects will be developed for each replacement or rehabilitation. The plan is to have damaged transformers refurbished if able or to replace it with a new transformer.

Comments:

N/A

CITY OF DANVILLE
PROJECT DESCRIPTION
FY 2015 FIVE-YEAR CIP

Project Title: Substation Upgrades & Rebuilds

Department: Utilities
165
Division: Power & Light
406
Section: Sub-Stations (Electric) 9 Fund:54

Project Cost/Funding Sources:

	Prior Years	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total
Utility Fund Revenues	$200,000	-	-	-	$1,000,000	$1,000,000	$2,200,000
Bonds	-	-	$2,000,000	$1,000,000	-	-	$3,000,000
Project Totals:	**$200,000**	**-**	**$2,000,000**	**$1,000,000**	**$1,000,000**	**$1,000,000**	**$5,200,000**

Goals/Milestones:

FY 2015	The goal is to systematically evaluate and replace the aged power transformer infrastructure that exists on the Danville Electric System. Initial evaluation will occur in FY2014
FY 2016	Continue replacement identified in the study.
FY 2017	Continue replacement identified in the study.
FY 2018	Continue replacement identified in the study.
FY 2019	Continue replacement identified in the study.